



A.D. 1862, 2nd JANUARY. N° 21.

SPECIFICATION

OF

MATTHEW CARTWRIGHT.

MODELS AND PLATES FOR ARTIFICIAL
TEETH.

LONDON:

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1862.



A.D. 1862, 2nd JANUARY. N° 21.

Models and Plates for Artificial Teeth.

(This Invention received Provisional Protection only.)

PROVISIONAL SPECIFICATION left by Matthew Cartwright at the Office of the Commissioners of Patents, with his Petition, on the 2nd January 1862.

I, MATTHEW CARTWRIGHT, of Carlisle, in the County of Cumberland, Dentist,
5 do hereby declare the nature of the said Invention for “IMPROVEMENTS IN THE
MANUFACTURE OF MODELS AND OF ‘PLATES’ OR ‘PIECES’ FOR ARTIFICIAL TEETH,”
to be as follows:—

My Invention consists in making models used in preparing plates or pieces
for artificial teeth of vulcanite, ebonite, or hardened rubber, alone or combined
10 with soft vulcanized rubber in the manner hereafter described.

I take a cast or impression of the mouth in wax, coat the surface of it with
plaster of Paris, and when dry, paint it with a mixture composed of oil and
vermilion. The cast or impression then receives a second coat of plaster,
which, when dry, again receives a coat of oil and vermilion, and so on until it
15 is sufficiently thick for the purpose to which it is to be applied. The wax is
removed, and the whole is coated with vermilion and oil as before. The
model just made is inserted in the lower half of a flask containing liquid
plaster, from which, when hardened, the model is removed, and its counterpart
or impression is reproduced in the plaster. The space formed by the model

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in the plaster is now filled with wax, and the rest of the plaster coated with vermilion and oil; the upper half or portion of the flask is now placed on the lower half and filled with liquid plaster, a cover is placed on it, and the whole allowed to harden. The upper and lower flasks are now divided, the wax in the lower flask is picked out, and the space thereby formed is filled up with 5 the composition of india-rubber to form vulcanite, the flasks are again put together, heated, and subjected to pressure in the ordinary manner, and the rubber is finally vulcanized. This done, the flasks are opened, and the model removed. To produce a counter model in vulcanite, I coat the vulcanite model with black lead, lamp black, bronze, goldbeaters' skin, or other suitable 10 material, and place it in the lower half of the flask (that part representing the mouth being uppermost), which contains soft plaster, where it is allowed to harden. The whole, or as much of the model as necessary, is now covered with wax, and the lower half painted in the ordinary manner; the upper half of the flask, which is filled with plaster, is now put on the lid, is also placed 15 on, and the whole allowed to harden. This accomplished, the flasks are separated, the wax removed, and india-rubber composition inserted in the cavity it occupied; the flasks are again put together, heated, pressed, and the india-rubber vulcanized in the ordinary manner. Sometimes I form the models and their counterparts by painting the india-rubber when in a 20 liquid state on the model, each coat being dry before the next is applied. When an elastic model is required, soft and hard rubber are used alternately or hard rubber in combination with cotton or any other material capable of rendering it elastic. For rendering plates or pieces suitable for palates, gums, or bands elastic, I coat the base with, for example, two coats of hard rubber; 25 then I apply a series of coats of soft rubber, and so on, according to the degree of thickness and elasticity required; and this may be done in combination or not with any other material capable of rendering it elastic, such as cotton, cotton fabric, asbestos. Where strength is required, hard rubber must exceed the soft, and where elasticity is required, the soft rubber must exceed the 30 hard. Plates or pieces made in the manner before described may be coated with crystal or plastic gold, gold leaf, platina leaf, tin foil, gold shell, silica, filings of gold or other metal in the following manner:—I adapt crystal or plastic gold to the models by consolidating it on them, the surface of the gold being roughened; the gold then receives a coating of liquid composition to 35 form vulcanite; the model is then placed in a "digester" or oven to heat it; when removed, it is again coated with a composition, as before, and so on, until the desired thickness is obtained; when perfectly solid, another layer, or

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even two or more layers of hard india-rubber, is or are added, and crystal gold adapted to it; the whole is vulcanized. I adapt gold leaf, tin or platina foil to the models by means of a sponge or other soft material. (When thick foil is used, it must be rendered porous.) The foil then receives a coating of
5 hard india-rubber, and is heated. The upper part of the piece is coated with gold filings, precipitated gold, or gold shell, by scattering the filings upon the surface previous to its being dry, and applying the gold shell when the surface is partially dry. To cover that part fitting the mouth with gold shell, I paint the model with it by means of a camel hair brush. In all cases I prefer the
10 metal leaf to be roughened. To apply silica to the plates, I take an impalpable powder of it, and paint it on by dipping the brush in a solution of sugar and water; the silica may be colored when desired.

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The Albany and Westerlo Railroad Company, in its annual report for the year 1874, states that the total amount of freight carried by the company was 1,000,000 pounds, and that the total amount of passenger travel was 1,000,000 miles. The company also states that the total amount of freight carried by the company was 1,000,000 pounds, and that the total amount of passenger travel was 1,000,000 miles. The company also states that the total amount of freight carried by the company was 1,000,000 pounds, and that the total amount of passenger travel was 1,000,000 miles.

Report of the Albany and Westerlo Railroad Company for the year 1874.